

**REMARKS****Summary of the Office Action**

Claims 1, 4-8 and 12-14 stand rejected under 35 U.S.C. §102(b) as being anticipated by Kim et al. (US 6,100,953).

Claims 2 and 9-11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kim et al. in view of Woo et al. (US 6,067,140).

Claims 15-17 stand rejected under 35 U.S.C. § 112, first paragraph.

Applicants wish to thank the Examiner for the remarks made in the Advisory Actions dated January 26, 2004 and March 11, 2004. Specifically, Applicants appreciate the indication in the Advisory Action dated March 11, 2004, that the Examiner will withdraw the rejection of claims 15-17 under 35 U.S.C. § 112, first paragraph, based upon consideration of our arguments provided in the Amendment under 37 CFR 1.116 filed on February 20, 2004. Accordingly, we resubmit our arguments regarding the rejection of claims 15-17 under 35 U.S.C. § 112, first paragraph, below.

Applicants respectfully submit that claims 15-17 do not presently stand rejected under any sub-sections of 35 U.S.C. § 102 and 103, in view of any prior art. Accordingly, Applicants request clarification regarding allowability over the prior of the subject matter of claims 15-17 in the next Office communication.

**Summary of the Office Action**

Applicants have amended independent claims 1, 4, and 8. Accordingly, claims 1, 2, and 4-17 are pending for consideration.

**All Claims Comply With 35 U.S.C. § 112**

Claims 15-17 stand rejected under 35 U.S.C. §112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed had possession of the claimed invention. In particular, the Final Office Action asserts that the feature of “both the first electrode and the light-shielding layer are within a same unit pixel region,” as set forth in claims 15-17 is new matter. See page 3, lines 1-4 of the Final Office Action. Applicants respectfully traverse the rejection for at least the following reasons.

Applicants respectfully submit that one skilled in the relevant art would recognize that gate and data lines, which typically are arranged substantially perpendicular to each other and crossing each other, define a plurality of pixel regions. Applicants further respectfully submit that one skilled in the relevant art would recognize that a TFT and a pixel electrode are within each of the pixel regions. For instance, the primarily cited reference, Kim et al., discloses that

“[i]n the conventional LCD, a plurality of gate bus lines arranged in a first direction on a first substrate and a plurality of data bus lines arranged in a second direction on the first substrate divide the first substrate into a plurality of pixel regions. A thin film transistor (TFT) applies an image signal delivered from the data bus line to a pixel electrode 13 on a passivation layer. The TFT is formed on each pixel region.” Column 1, lines 26-32 of Kim et al.”

In addition, Applicants respectfully submit that, as disclosed at paragraphs [0038], [0044], and [0047] and shown in FIGs. 3, 5, and 6 of the originally-filed specification, a first transparent electrode 22 having slit patterns 21 is formed on a first substrate and a black matrix 25 is formed below the slit patterns 21. Accordingly, Applicants respectfully assert that, especially in light of the disclosure of Kim et al., the originally-filed specification would

reasonably convey to one skilled in the relevant art that gate and data lines define pixel regions, that each pixel region has one TFT and one pixel electrode, and that the transparent electrode, including the slit patterns and black matrix of claims 15, 16, and 17, are formed within a “same unit pixel region.” Thus, Applicants respectfully submit that the originally-filed specification would reasonably convey to one skilled in the relevant art that the present invention includes a first electrode having a plurality of slit patterns and at least one light-shielding layer, wherein “both the first electrode and the light-shielding layer are within a same unit pixel region,” as recited by claims 15, 16, and 17.

In view of the above, Applicants respectfully submit that the originally-filed specification complies with the requirements under 35 U.S.C. §112, first paragraph, and that claims 15-17 contain subject matter which was described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Accordingly, since the Advisory Action dated March 11, 2004, indicates that the Examiner will withdraw the rejection of claims 15-17 under 35 U.S.C. § 112, first paragraph, based upon consideration of our arguments, as original provided in the Amendment under 37 CFR 1.116 filed on February 20, 2004, and again presented above, Applicants respectfully request withdrawal of the rejection of claims 15-17 under 35 U.S.C. § 112, first paragraph.

**All Claim Define Allowable Subject Matter**

Claims 1, 4-8 and 12-14 stand rejected under 35 U.S.C. §102(b) as being anticipated by Kim et al. (US 6,100,953), and claims 2 and 9-11 stand rejected under 35 U.S.C. §103(a) as

being unpatentable over Kim et al. in view of Woo et al. (US 6,067,140). Applicants respectfully traverse these rejections for at least the following reasons.

Initially, Applicants respectfully submit that none claims 15-17 stand rejected under any sub-sections of 35 U.S.C. § 102 and 103 in view of prior art. Thus, in accordance with MPEP § 2163.06(I), the Examiner should have considered the alleged new subject matter, thereby claims 15-17 are in clear condition for allowance and are allowable over the prior art.

Independent claim 1, as amended, recites a liquid crystal display device including “at least one light-shielding layer on the first substrate and below each slit pattern,” wherein “the light-shielding layer includes a black matrix.” Similarly, independent claim 4, as amended, recites a liquid crystal display device including “at least one light-shielding layer on the first substrate below the first electrode and the slit patterns,” wherein “the light-shielding layer includes a black matrix.” Moreover, independent claim 8, as amended, recites a method of fabricating a liquid crystal display device including a step of “forming at least one light-shielding layer on the first substrate,” wherein “the light-shielding layer includes a black matrix.”

In contrast to Applicants’ claimed invention, Kim et al. teaches, col. 1, lines 37-39, “side electrode 15 formed in a region except a region where pixel electrode 13 is formed on the passivation layer.” As pointed out in the “Examiner response to argument No. 1” on page 5 of the Final Office Action, the claimed light-shielding layer of claims 1, 4, and 8 is broadly interpreted such that the side electrode 15 of Kim et al. may be metal, and hence function as a light shielding member. Accordingly, Applicants respectfully assert that the side electrode 15 taught by Kim et al. cannot now be broadly interpreted as the light-shielding layer, which

includes a black matrix, as presently recited by amended independent claim 1, 4, and 8, and hence dependent claims 2, 5-7, and 9-17.

In further contrast to Applicants' claimed invention, Kim et al. teaches, col. 1, lines 40-43, and FIGs. 1A and 1B, a light shielding layer 25 formed on a second substrate, a color filter layer 23 formed on the light shielding layer 25, and a common electrode 17 formed on the color filter layer 23. Accordingly, Applicants respectfully assert that the light shielding layer 25 taught by Kim et al. cannot be broadly interpreted as the "light-shielding layer on the first substrate," as recited by amended independent claims 1, 4, and 8, since Kim et al. explicitly teaches forming the light shielding layer 25 on the second substrate opposite to the substrate having the pixel electrode 13 and side electrode 15.

Applicants further assert that Woo et al. cannot remedy the deficiencies of Kim et al., as detailed above. For example, Applicants respectfully submit that Woo et al. teaches, in FIGs. 1-3, continuous pixel electrode structures 21 (in FIGs. 1A and 1B) and 121 (in FIGs. 2-3) formed on first substrates 1 and 101, respectively, that lack any "plurality of slit patterns," as recited by amended independent claims 1, 4, and 8. Moreover, Applicants respectfully submit that Woo et al. teaches, in FIGs. 1-3, black matrix structures 11 (in FIGs. 1A and 1B) and 111 (in FIGs. 2-3) that are formed on second substrates 2 and 102, respectively, that are opposed to the continuous pixel electrode structures 21 (in FIGs. 1A and 1B) and 121 (in FIGs. 2-3).

Accordingly, Applicants respectfully assert that Kim et al. and Woo et al., whether taken singly or combined, fail to teach or suggest a liquid crystal display device including "at least one light-shielding layer on the first substrate and below each slit pattern," wherein "the light-shielding layer includes a black matrix," as recited by amended independent claim 1, "at least

one light-shielding layer on the first substrate below the first electrode and the slit patterns,” wherein “the light-shielding layer includes a black matrix,” as recited by amended independent claim 4, and a step of “forming at least one light-shielding layer on the first substrate,” wherein “the light-shielding layer includes a black matrix,” as recited by amended independent claim 8.

Thus, for at least the above reasons, Applicants respectfully request that the rejections under 35 U.S.C. §§102(b) and 103(a) should be withdrawn.

### **CONCLUSION**

In view of the foregoing, withdrawal of the rejections and allowance of the pending claims are earnestly solicited. Should there remain any questions or comments regarding this response or the application in general, the Examiner is urged to contact Applicants’ undersigned representative at the number listed below.


If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under

37 C.F.R. § 1.136 not accounted for above, such extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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Dated: March 23, 2004

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